

## ABSTRACT

A method for determining the quantity and identity of an electrochemically convertible substance in a gas sample. The substance is converted in an electrochemical sensor producing an electrical output. The characteristic parameters of a curve-defining equation  $y(t) = k \times (e^{-axt} - e^{-bxt})$  are calculated based on three measurements of output at times  $t$ ,  $2t$ , and  $4t$ . The integral under all or part of the curve is calculated to determine the quantity of the substance. The equation parameters are compared with standard values to determine the identity of the substance.